Most Innovative or Influential
Hardware: DEC Alpha

The most innovative hardware product award is one of the most important on *PCW*. It is here we select the hardware which has been most instrumental in pushing the hardware market into new, uncharted waters or which has taken the most prominent role in an existing market.

The runner-up here is the Apple Newton, a series of technologies culminating in a device which will supposedly revolutionise the palmtop compu-

ter. Looking at the technology which Apple outlines for the product, to be introduced in the second quarter of this year, it is clear the product has been designed to put the application before the hardware, which is where many personal information organiser products fail.

The handheld unit, which resembles the Batphone, will not only be able to recognise your handwriting but will learn its idiosyncrasies the more you use it. The machine will be able to work the way you do, scheduling your appointments on the minimum of information: LUNCH ANNE FRI-DAY. Other automatic tasks such as faxing, and totting up columns of figures when you draw a line under them, mean the tool will be invaluable.

With an ARM RISC 610 processor under the

bonnet, it should have the power to do what it has to. It will also have a PCMCIA 2.0 compatible slot for add-in products, and software for it will become available on cards when the machine is released.

Apple hints at other products based on Newton technology, such as the Newton Draw and Spell for children, the Newton Fax Phone, the Newton Port-able Map and the Newton Classroom. At under $1000, this machine could drag the electronic organiser beeping and clicking from the yuppie playpen into the real world.

The winner is the Alpha chip from DEC, the 64-bit answer to MIPs' RISC processor which now appears to be dead.

The Alpha has the essential advantage of being faster than the MIPs chip. It is a scalable device, so it can be used in the smallest of technologies, like palmtops, right up to supercomputers. The chip, while not a seminal product, represents an in-crease in speed and efficiency which will speed the computer industry along in terms of available horsepower.
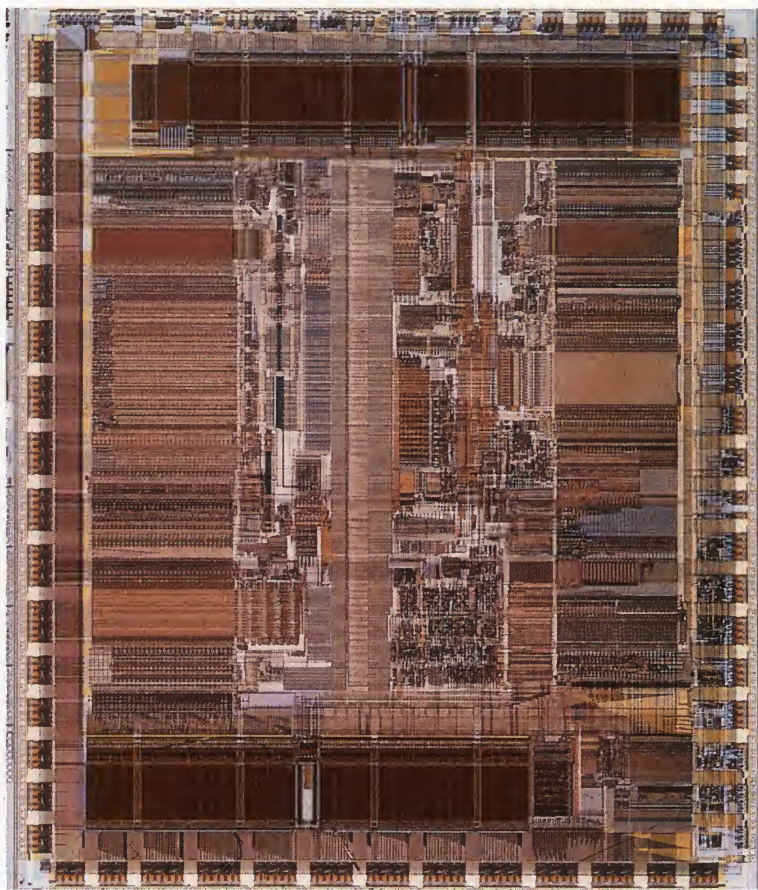
The chip ranges from 133MHz to the 200MHz version, which can be used in mainframe ma-chines. It has Superscalar architecture, meaning it can process more than one instruction per clock cycle. It also Superpipelines, enabling it to work on seven elements of an instruction at once.

As far as influence goes, the Alpha has far outstripped the MIPs processor, now that MIPs has lost much of the support for its ACE consortium brainchild. Few people apart from MIPs, Acer and SGI, are supporting it. Alpha is supported by Cray, which is using it in its next generation of supercomputers. In addition, DEC has a stake in Olivetti, and the Italian company has included the chip in its own product strategy. And DEC is a $14 billion outfit with the power to put a lot of market-ing clout behind the Alpha.

Along with the Alpha, Intel's launch of the Pentium processor played a large part in ACE's demise. Intel had pulled out of the ACE consortium because MIPs reduced Intel's importance within the ACE specification.

The Alpha's prospects against MIPs have been strengthened considerably by Microsoft's an-nouncement that Windows NT would be ported to the whizzy architecture. DEC is still hedging its bets by remaining an ACE member and shipping MIPs-based products at the low end of its product line, but the company has the Alpha chip as a trump card and can use it proactively to knock MIPs' chip out of its range at any time, promoting Alpha as the chip which runs Windows NT better than the R4000.

With DEC already having a number of high-end machines based on the product, the Alpha looks set for success. It seems this chip has provided the company with the best of both worlds.